Health Care

One Woman's Story…

Francis is a 50-year old professional woman diagnosed with asthma in her 40s and has intermittent problems with her asthma.

Insured by her employer, she saw her primary care provider yearly. Most of the time, Francis did not have lot of problems with her asthma.

Still, she ended up at her hospital's emergency room with severe asthma symptoms yearly for three years.

On the third visit to the emergency room, a health care provider gave Francis with an asthma management plan and education on how and when to use her medications. She was also referred to her primary care provider for further follow up.

She had never been given an asthma management plan that described how to monitor her asthma at home and when to take her medications.

As a result of this plan, the education and follow up with her primary care provider, Francis has not returned to the ER for her asthma.

In 2002, asthma hospitalizations cost Washington State $19,000,000.

Exacerbating Factors

Allergens, irritants or other triggers that can cause asthma symptoms to worsen.

Allergens

Substances that can cause an allergic reaction, usually absorbed through the skin, nasal passages, lungs or digestive tract.

Irritants

Substances that can cause irritation of the skin, eyes, or respiratory system. Effects may be acute from a single high level exposure, or chronic from repeated low-level exposure.

Triggers

A factor that may bring on or increase the signs and symptoms of asthma.

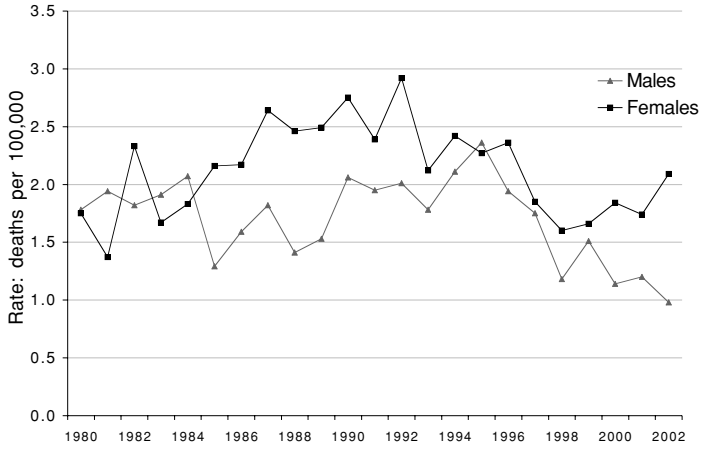
Asthma is a chronic inflammatory disorder of the airways that is associated with obstruction, inflammation or hyper-responsive airways that cause airflow limitation and respiratory symptoms. As with most chronic diseases, diagnosis, treatment and management are critical to controlling the disease. If untreated or under-treated, asthma symptoms can cause limitations to a person's physical health that interfere with his or her quality of life. Physical limitations caused by untreated or under-treated asthma can also result in missed days of work/school or even death.

The role of the health care practitioner is to work with people with asthma (patients) to control their disease and prevent it from interfering with daily life. When an asthma exacerbation (attack) occurs, disease management becomes urgent (acute). Thus, asthma management crosses both the acute and planned models for health services delivery.

In Washington State, an estimated 400,000 Washington adults and 120,000 youth currently have asthma. More than 5,000 people are hospitalized every year, and asthma costs more than $400 million annually in medical expenditures and lost productivity. Preventable asthma-related hospitalizations are expensive to people with asthma and the health care system.[1]

Each year in Washington, nearly 100 people die as a direct result of asthma. Most of these deaths could be prevented. In the last 20 years, Washington State has made little progress in reducing overall death rates for persons with asthma (Figure 3).

Figure 3: Trends for Washington Asthma Deaths by Gender



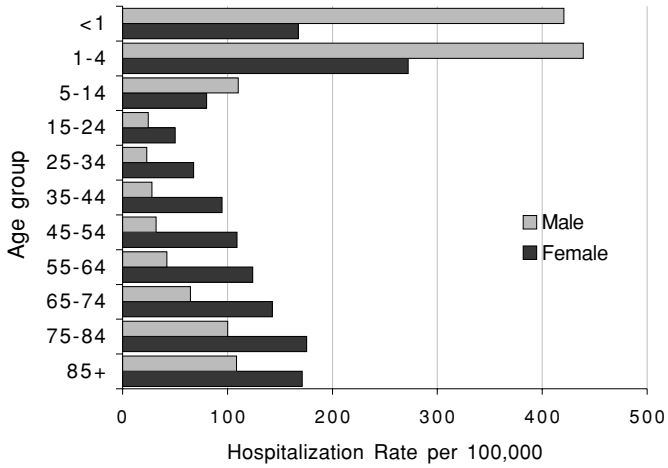
Source: 1980-2002 National Death Certificates, Washington State Death Certificates Asthma as primary cause of death, age-adjusted to 2000 US Population. Dilley, J., Pizacani, B., Macdonald, S., & Bardin, J. (2005). The Burden of Asthma in Washington State. Olympia, WA: Washington State Department of Health.pg:40

Asthma death rates are not the same between men and women in Washington. Although it appears that death rates have been decreasing for men, they are increasing in women, which is consistent with the national trend. Although overall death rates for both men and women have declined since the early 1990s, the decline among women seems to be reversing these past several years.

Asthma-related hospitalizations vary based on age and gender (Figure 4). Younger children (less than five years old) have the most hospitalizations, with boys being more frequently hospitalized than girls. In the teen years, asthma becomes more prevalent in girls and stays elevated through adulthood. New cases of asthma may occur throughout the lifespan, particularly through occupational exposures. Hospitalization rates are low in young adulthood and increase in the older adult.

1 Dilley J., Pizacani B., Macdonald S., Bardin J. (2005). *The Burden of Asthma in Washington State*. Olympia, WA: Washington State Department of Health. Pg: i

Figure 4: Age and Gender-specific Washington State Hospitalization Rates

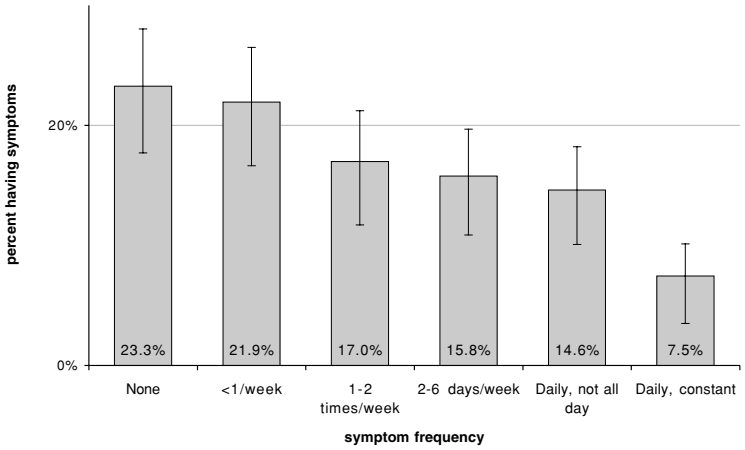


Source: Washington State Comprehensive Hospital Abstract Reporting System (CHARS), 2000-2002 combined. Asthma as principal diagnosis. Dilley, J., Pizacani, B., Macdonald, S., & Bardin, J. (2005). *The Burden of Asthma in Washington State.* Olympia, WA: Washington State Department of Health.pg:38

Symptoms of asthma include coughing, wheezing, shortness of breath, chest tightness and phlegm production when a person does not have a cold or respiratory infection. A person's airways may have a sudden response to being exposed to stimuli (known as exacerbating factors, triggers, irritants, or asthmagens) that can reduce the amount of air flow to and from the lungs.

Frequency of asthma symptoms along with patient history and lung function tests are utilized to diagnose and develop a treatment plan to help the management of asthma.

Figure 5: Distribution of Asthma Symptom Frequency in Past Month, Among Washington Adults with Asthma



Source: 2001 Washington State Behavioral Risk Factor Surveillance System (BRFSS). Persons who stated that they had been told by a physician that they had asthma. Dilley, J., Pizacani, B., Macdonald, S., & Bardin, J. (2005). *The Burden of Asthma in Washington State*. Olympia, WA: Washington State Department of Health .pg. 26.

As shown in Figure 5, only about 23% of Washington adults with asthma reported being free of symptoms during the previous month. More than one in five reported having symptoms at least once every day. The Healthy Youth Survey reported that one in seven youth with asthma experiences symptoms every day. Fewer youth than adults report experiencing daily symptoms, although the difference is small.[2] Uncontrolled asthma symptoms affect the quality of life for persons with asthma and can almost always be avoided with appropriate medical follow up. These data indicate that considerable work is needed to control asthma in Washington State.

2 Dilley J., Pizacani B., Macdonald S., Bardin J. (2005). *The Burden of Asthma in Washington State*. Olympia, WA: Washington State Department of Health. Pg: 14

Treating Asthma

The National Asthma Education and Prevention Program (NAEPP) was first initiated by the National Institute of Health's National Heart, Lung and Blood Institute in March 1989 to address the growing problem of asthma in the United States. Their ultimate goal is to "enhance the quality of life for patients with asthma and decrease asthma-related morbidity and mortality."[3] The NAEPP works with intermediaries, including major medical associations, voluntary health organizations, and community programs, to educate patients, health professionals, and the public. In 1989, the NAEPP developed and distributed the "*Expert Panel Report: Guidelines for the Diagnosis and Management of Asthma*." These guidelines (updated in 1997 and 2002) were prepared for use by clinicians working in diverse health care settings. They address practical decision-making issues in the diagnosis and management of asthma.[4] These guidelines have become the clinical standards for the care of asthma in the United States.

The NAEPP's Four Components of Asthma Care[5]

- Assessment and Monitoring
- Education for Partnership in Care
- Pharmacotherapy
- Identifying and Controlling Factors Contribting to Asthma Severity

Component 1: Assessment and Monitoring

Asthma is usually diagnosed by a health care professional who has carefully assessed the patient's history and pulmonary function and performed a physical examination. Once the initial diagnosis of asthma has been made, ongoing monitoring is essential.

Key clinical activity areas for the health care provider are to:

- Establish asthma diagnosis
- Establish severity of asthma
- Schedule routine follow-up care, and
- Assess for referral to specialty care.

Asthma care is based on guidelines and guided by disease severity. Significant numbers of people with asthma have not been diagnosed while some people have been under-diagnosed and have uncontrolled asthma.[6] In 2000, a clinical index was developed to define the risk of asthma in young children with recurrent wheezing.[7,8]

Asthma is a manageable disease. Ongoing monitoring of persons with asthma is important to increase positive outcomes for asthma care and to reduce possible hospitalizations. One study showed that, through more appropriate prior care, 74 % of hospital admissions for severe asthma could have been prevented.[9]

The level of severity of asthma has never been shown to be associated with risk of death. Patients with mild, but uncontrolled asthma, have an equal chance of an adverse event occurring as those with severe persistent asthma. In studies conducted on asthma mortality, nearly 90 % of the deaths involved avoidable factors.[10] Studies have shown that, of those who have died from asthma, 78 % had previously been admitted to the hospital at some time in their lives and 40 % had been admitted within the year preceding death.[11,12]

3 National Institutes of Health, National, Heart, Lung, and Blood Institute (1997) *National Asthma Education Prevention Program: Guidelines for the Diagnosis and Management of Asthma*. http: //www.nhlbi.nih.gov/about/naepp/naep_pd.htm

4 Ibid., pg: 2

5 Morbidity Mortality Weekly Report. March 28, 2003 / 52(RR06);1-8. http:// www.cdc.gov/mmwr/preview/mmwrhtml/rr5206a1.htm

6 National Institutes of Health, National Heart, Lung, and Blood Institute. National Asthma Education and Prevention Program. (1996). *NAEPP Working Group Report: Considerations for Diagnosing and Managing Asthma in the Elderly*. NIH Publication No. 96-3662

7 Castro-Rodriques JA., Holberg CJ., Wright AL., Martinez FD. (2000). A Clinical Index to Define Risk of Asthma in Young Children with Recurrent Wheezing. *AM J Respir Crit Care Med* 162:1403-6

8 Jim Stout: Personal Communications, King County Asthma Forum: Seattle, WA. 2002

9 Blainey D., Lomas D., et al. (1990). The Cost of Acute Asthma – How Much is Preventable? *Health Trends* 22: 151-3

10 British Thoracic Association. (1982). Death from Asthma in Two Regions of England. *British Medical Journal* Clin Res Ed. 285:1251-5

11 Bucknall CE., Slack R., et al. (1999). Scottish Confidential Inquiry into Asthma Deaths.1994-1996. *Thorax* 54:978-84

12 Burr ML., Davies BH., et. al. (1999). A Confidential Inquiry into Asthma Deaths in Wales. *Thorax* 54:985-9

Older Adult Populations

The general approach to managing asthma, including the utilization of the National Asthma Education and Prevention Program (NAEPP) guidelines developed by the National Institutes of Health (NIH), National Heart, Lung, and Blood Institute, is appropriate overall for the older adult population.

The normal aging process and other health issues, such as chronic cardiovascular disease, tuberculosis, or other lung disease may make the diagnosis of asthma complicated. Asthma can also be misdiagnosed as chronic obstructive pulmonary disease (COPD). Up to 40% of patients with asthma also have COPD.[13] This can be especially difficult if the person is a current or former smoker.[14] Furthermore, asthma medications themselves may have unwanted or unpredictable effects on other medical conditions or, similarly, other medical conditions and medications could interfere with asthma medications.[15] Due to the aging process or other health issues, normal lung functioning may be unattainable.[16] Modifications in asthma management may be required to provide the best possible quality of life for the older adult. The NIH provides guidance on distinguishing asthma from COPD and provides a guide for potential adverse effects of non-asthma medications for the older adult patient with asthma.

Component 2: Identifying and Controlling Factors Contributing to Asthma Severity

The key clinical activities in this area for the health care provider are to recommend measures to control asthma triggers and treat or prevent all co-morbid conditions. The majority of people with asthma also react to allergens (e.g., house dust mites, cockroaches, cat and dog dander, and irritants such as secondhand smoke). A person's allergen sensitivity can be determined by exposure/symptom history and confirmed through skin and/or blood testing. The NAEPP recommends allergy testing for perennial indoor allergens in persons with persistent asthma who are taking daily medications. Allergy care coupled with increased utilization of inhaled corticosteroids, has been linked to reductions of emergency hospital care.[17] After sensitivity is determined, avoidance of the trigger is recommended.[18]

Eliminating exposure to potential asthma exacerbating factors through environmental control is complementary to medication management in the control of asthma. Patients can be adherent with their medication but non-adherent in avoidance of their triggers for asthma, which can lead to increased asthma symptoms. Both factors must be attended to for appropriate asthma management.[19] This may include such activities as avoiding cats, using protective bed coverings, and/or staying inside on days with poor air quality.[20]

Other factors that influence asthma are obesity and physical activity. Higher rates of asthma are associated with obesity. It is not clear whether obesity actually exacerbates asthma or if those with asthma are more likely to be obese because of their disease. However, avoidance of exercise increases the risk of obesity. Physical activity triggers asthma attacks in some individuals. This is called exercise-induced asthma.

Efforts to improve the health status of persons with asthma must address the predominant social, cultural, and environmental conditions in which individuals with asthma live.[21] For more information about irritants, including tobacco use and exposure to environmental tobacco smoke, see the *Environmental and Work Related Asthma Chapters*.

Component 3: Pharmacotherapy

For the health care provider, the key clinical activities in this area are prescribing medications according to severity of asthma and monitoring drug use. Medications are administered with the primary goal of preventing asthma attacks.

13 Surveillance Data, Inc. (2004). COPD/*Asthma Diagnoses Overview*: 2001-2003.

14 National Institutes of Health, National Heart, Lung, and Blood Institute. National Asthma Education and Prevention Program. (1996). *NAEPP Working Group Report: Considerations for Diagnosing and Managing Asthma in the Elderly.* NIH Publication No. 96-3662. Pg: 5

15 Ibid. Pg: 14

16 Ibid. Pg: 24

17 Schatz M., Cook EF., Nakahiro R., Petitti D. (2003). Inhaled Corticosteroid and Allergy Care Reduce Emergency Hospital Use for Asthma. J. *Allergy Clin Immunol*. Mar;111

18 Ressel GW. (2003). Practice Guidelines: NAEPP Updates Guidelines for the Diagnosis and Management of Asthma. *American Academy of Family Physicians.* Vol. 68/No. 1 http: //www.aafp.org/afp/20030701/practice.html

19 Tinkleman D. (2005). *CDC Grantee Conference.* National Jewish Hospital: Denver.

20 National Institutes of Health, National Heart, Lung and Blood Institute. (2002). *Key Clinical Activities for Quality Asthma Care: Recommendations of the National Asthma Education and Prevention Program*. Prepared by: Williams SG., Schmidt DK., Redd SC., Storms W.

21 Etzel RA. (1995). *Environ Health Perspect* 103(Suppl 6):55-58. http://ehp.niehs.nih.gov/docs/1995/Suppl-6/etzel-abs.html

Research on new drugs is occurring and is yielding additional medications. Currently, there are two types of medications for asthma:

Rescue or Reliever Medications

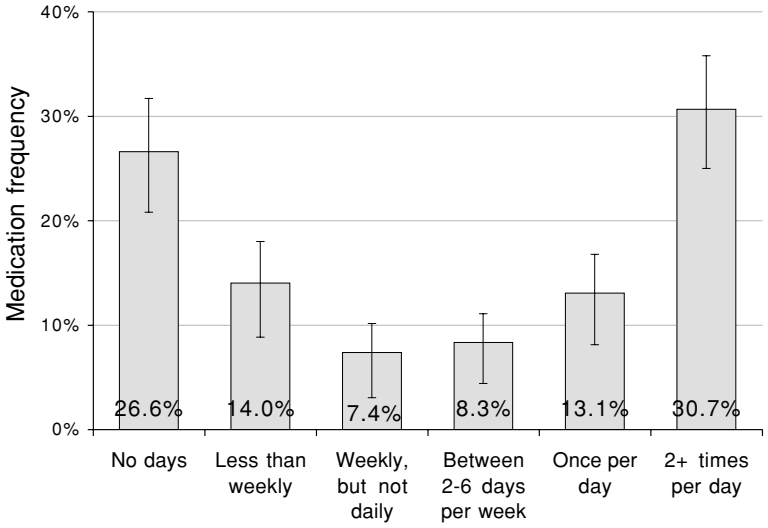
Quick-relief rescue and reliever medications give prompt relief of symptoms of constricted bronchial tubes by relaxing the muscles around the airways and lessening the accompanying acute symptoms: coughing, wheezing, shortness of breath or rapid breathing, and chest tightness.

Long-term Control Medications

These are used daily and help to prevent symptoms from occurring on a long-term basis. These could come in the form of an oral or inhaled medication. A subcutaneous injection is now also available and is administered either two weeks or monthly.

Asthma medications are most effective when patients take them as prescribed. As with many chronic diseases that require daily medications, people may not always take their medications as prescribed. As shown in Figure 6, only about 27% of Washington adults with asthma who were surveyed reported taking no medicine for their asthma - neither control nor rescue medications. About 44% of people with asthma take asthma medication at least once a day, with nearly one-third taking asthma medication two or more times per day.[22]

Figure 6: Distribution of Asthma Medication Use Frequency during Past Month, Among



Washington Adults with Asthma

Source: 2001 Washington State Behavioral Risk Factor Surveillance System (BRFSS). [Note: Some people who take asthma medication less often than every month may be counted in the "No days" category.] Dilley, J., Pizacani, B., Macdonald, S., & Bardin, J. (2005). *The Burden of Asthma in Washington State*. Olympia, WA: Washington State Department of Health. pg: 73

Component 4: Education for Partnership in Care

For the health care provider, the key activities in this area are developing a written asthma management plan and providing routine education on patient self-management.

Reduced asthma death rates in both adults and children have been shown when interventions aimed at self-management include:

- A partnership between the patient and the health care provider(s) that includes frequent revision and reinforcement in developing patient self-care goals and,
- The utilization of a written self-management care plan (also called an asthma action plan).[23]

22 Dilley J., Pizacani B., Macdonald S., Bardin J. (2005). *The Burden of Asthma in Washington State*. Olympia, WA: Washington State Department of Health. pg: 72

23 Global Initiative on Asthma, National Institutes of Health, National Heart, Lung and Blood Institute (2002). *Global Strategy for Asthma Management and Prevention*. Pg: 82

Coordination between health care, education, worksite, and community systems to support asthma management is essential. The US Department of Health and Human Services recommends widening the use of current knowledge to diagnose and manage asthma by educating patients and their families and expanding asthma control activities within community settings.[24] The NAEPP guidelines state that, in consultation with the patient (parent/guardian), the health care provider should develop a written plan (also called asthma action or management plans) as part of educating the patient about self-management.

Written asthma action plans help clarify expectations for treatment and provide patients (and their families or other caregivers) with an easy reference for remembering how to manage the asthma. One study reported that 9 out of every 10 caretakers of children with asthma who had an action plan reported the plan to be of value in managing asthma attacks.[25] Asthma action plans have also been accepted and utilized by clinicians and have been shown to result in fewer emergency department visits and hospitalizations for their asthma patients.[26]

The plan should be individualized for each patient and adjusted as needed at every follow-up visit. A copy of the plan should be given to and reviewed by each caregiver and, if applicable, to the school, childcare center, after-school/youth programs, long-term care facility, case manager, and other family members. Refer to the *Asthma in Educational Settings* chapter for more discussion on schools.

Effective patient-provider communication, patient faithfulness to taking medications (adherence), and self-management skills are required for asthma management. Adherence to long-term asthma medication regimes have been estimated at between 50 and 65%.[27] The patients with severity of asthma are at greater risk for non-adherence due to the following reasons: a) difficulty of managing multiple medications to control symptoms, b) coexisting diseases; c) depression and anxiety, and/or d) the high cost of care.[28] Other reasons for non-adherence can include a person's belief systems that are counter to recommended medical practice; poor understanding of the disease and medications; or lack of support, understanding, and appropriate patient education from health care providers.[29]

The NAEPP guidelines have been widely distributed both nationally and within Washington State. In 2003, the Washington State Medical Education and Research Foundation, in conjunction with the American Lung Association and the Washington State Department of Health, published fact sheets on the 2002 NAEPP updated guidelines. These guidelines

24 US Department of Health and Human Services. (2000) *Action Against Asthma A Strategic Plan for the Department of Health and Human Services.* Pg: 34

25 Dinakar C., Van Osdol TJ., Wible K. (2004). How Frequent are Asthma Exacerbations in a Pediatric Primary Care Setting and Do Written Asthma Action Plans Help in their Management?. *J Asthma*. 41(8): 807-12.

26 Ting S. (2004). Multicolored Simplified Asthma Guideline Reminder (MSAGR) for better Adherence to National/Global Asthma Guidelines. *Clin Rev Allergy Immunol*. 27(2):133-45.

27 American Academy of Allergy Asthma and Immunology. (2004). *Achieving Adherence to Asthma Therapy. AAAAI Quality of Care for Asthma Committee Paper*. Prepared by AAAAI Quality of Care for Asthma Committee and Health Care Delivery and Quality (HCDQ) Planning Committee. Milwaukee. WI

28 Weinstein AG. (2005). Should Patients with Persistent Severe Asthma be Monitored for Medication Adherence? *Ann Allergy Asthma Immunol*. 94(2): 251-7.

29 Centers for Disease Control. (2004). *Management. In National Asthma Training Curriculum* [CD-ROM]. Centers for Disease Control.

were distributed in early 2005 to over 3000 family practice and internal medicine physicians in Washington. Nationally, a study conducted of physicians working with children with asthma found that most physicians had substantial understanding of the basic tenets of the NAEPP guidelines including prescribing inhaled corticosteroids; but, opportunities exist in improving written asthma action/management plans and routine follow-up care.[30] In Washington State, it is not known how widely the NAEPP guidelines are utilized in asthma management care.

Asthma as a Chronic Disease

The goal of the health care system in the care of persons with asthma is to provide equal access to high quality care for all. Trained health care providers should be available to provide personal health care. This access to care should be equitable regardless of insurance status. The current system for delivering asthma care is fragmented. To achieve a comprehensive approach to asthma care, statewide implementation of the planned care model, (also known as the chronic care model) is proposed. In order to assess whether the goals related to health care access and quality of care are being met, surveillance systems and evaluation methods are also needed.

The Planned Care Model was developed in the 1990's by Ed Wagner, MD, MPH, Director of the McColl Institute for Health Care Innovation, Group Health Cooperative of Puget Sound, with support from the Robert Wood Johnson Foundation.[31] The model identifies the essential elements of a health care system that are required for high quality chronic disease care. "Evidence-based change concepts under each element, in combination, foster productive interactions between informed patients who take an active part in their care and providers with resources and expertise."[32]

The six elements of the Chronic Care Model (also called the Planned Care Model) are:

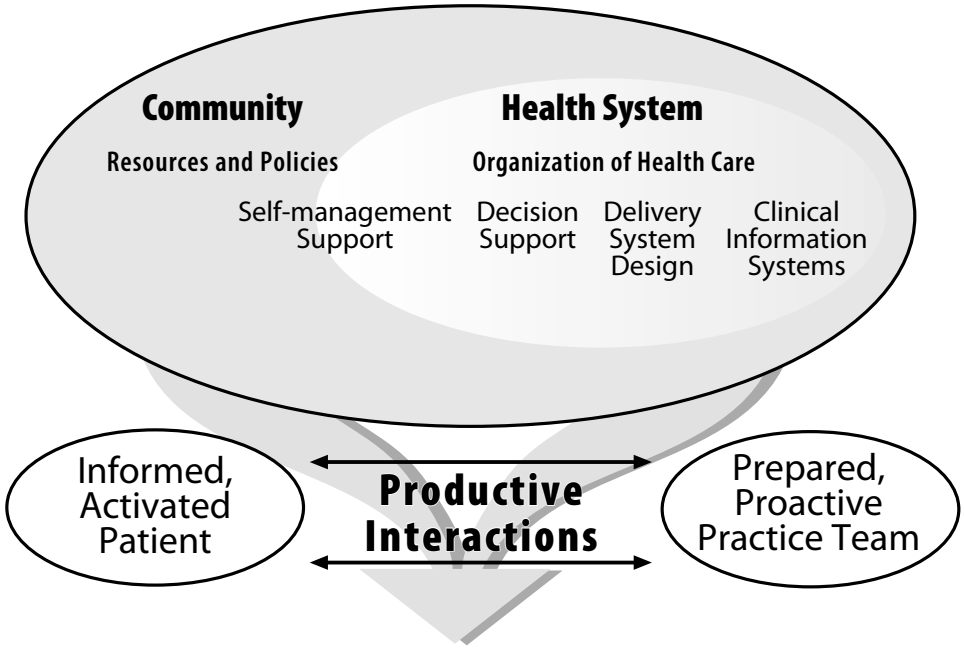
1. Community-Resources and Policies
2. Health System-Organization of Care
3. Self-Management Support
4. Delivery System Design
5. Decision Support
6. Clinical Information Systems

30 Finkelstien JA., Lozano P., Shulrull R., et. al. (2000). Self-Reported Physician Practices for Children with Asthma: Are National Guidelines Followed? *Pediatrics*. 106:4 Supp:886-896

31 Wagner EH. (1998). Chronic Disease Management: What Will it Take to Improve Care for Chronic Illness? *Effective Clinical Practice*. 1:2-4.

32 Ibid.

The Planned Care Model



Source: Wagner EH. (1998). Chronic Disease Management: What Will it Take to Improve Care for Chronic Illness? *Effective Clinical Practice*. 1:2-4 *Reprinted with permission from ACP-ASIM Journals and Books*

The Planned Care Model has been used successfully to improve asthma care, utilizing improvement methods taught in many settings by the Institute for Health Care Improvement.[33] The model has been used extensively to address diabetes care in Washington State, and has been implemented in a few settings for asthma such as community clinics with uninsured patients and migrant farm workers, and with the homeless. This plan recommends much more extensive use of the Model for asthma care and statewide support of registers for electronic patient data collection and clinical information systems (electronic medical records).

Asthma care depends on a variety of health providers who have contact with the patient. These providers may include the emergency department (ED) physician, nurse practitioner, physician assistant, family physician, pediatrician, registered medical assistant, nurse, respiratory therapist, community health worker, and/or pharmacist. Each needs to be able to communicate a clear message to the patient and reinforce the steps need to take to manage their disease. The existing health care system is fragmented and does not support the provision of comprehensive integrated care to persons with asthma. Medical providers lack adequate access to data that would allow for rapid system improvement in delivery of care in the clinic or office setting. Families often move around the state and see different providers who have different approaches to managing the disease.

Ideally, in a health care system built on the planned care model, community resources are integrated with those of the clinic/office to provide comprehensive care. An example might be community-sponsored nutrition classes that teach healthy eating patterns for persons with diabetes. The entire health system is organized to provide comprehensive care.

33 Wagner EH. (1998). Chronic Disease Management: What Will it Take to Improve Care for Chronic Illness? *Effective Clinical Practice*. 1:2-4.

Complementary and Alternative Medicine

A group of diverse medical and health care systems, practices, and products that are not presently considered to be part of conventional medicine.

Asthma Health Tracking

Washington State currently lacks a statewide system for tracking health care-related data on asthma for patients who are treated in clinic (out-patient) or emergency department settings. No defined core measures for tracking asthma outcomes or methods for collecting such data exist in the state. At the provider level, a lack of registries and integrated electronic medical record systems deter tracking of the clinical status of patients with asthma and monitoring adherence to guidelines for asthma care on an ongoing basis.

In addition, there is no statewide system to coordinate data so that all members of the care team know what is happening with patients in a timely manner. For example, primary care practitioners are not universally and promptly notified that one of their patients has been seen in the emergency department. Since continuity of care is important for asthma, closing of this data gap is important.

Provider Education

All health care practitioners need to maintain current skills in the management of asthma. Changing physician practice behavior in the care of asthma patients may require multiple approaches. Didactic lectures often achieve some change, but interactive system-based or problem-solving approaches have shown promising effects with equal or enhanced positive changes in asthma outcomes in some studies.[34] Non–traditional forms of education through the planned care collaborative model, long distance learning (e.g. Telemedicine or Telehealth) and feedback on patient status via data collection systems and electronic medical record data are other promising strategies for provider training. Long distance learning technology has the potential to help fill in some of the anticipated gaps for making specialist care accessible in rural areas.

Complementary and Alternative Medicine

The World Health Organization estimates that four billion people use complementary and alternative medicine (CAM) and that as much as 80% of the world's heath care is CAM-based.[35] In some countries, CAM has been used by the public health systems as a remunerated and accepted alternative to standard care. In 1998, the Institutes of Health established a National Center for Complementary and Alternative Medicine (NCCAM) to explore CAM healing practices in the context of rigorous science, provide training for CAM researchers and to disseminate authoritative information to the public and professionals.

The utilization of complementary and alternative medicine (CAM) among patients with asthma is very popular and estimated use is from 41% to 59%.[36] It is unknown how many patients in Washington State utilize CAM, alone or in combination with traditional medicine, as there is no data source to collect this information. Providers may not think to ask patients about their use of CAM, or about over-the-counter drugs taken to help relieve their asthma symptoms.

Access to Health Care

Access is referred to in three contexts: the first is access to trained health care providers; second is geographic access to care throughout the state; and third is equal access to care regardless of personal resources (such as insurance status).

Asthma is a complex disease and most patients receive their primary care through one provider, however, there are circumstances when a referral to a specialist (e.g., allergist) is indicated.[37] All persons with asthma should have equal access to care, including specialists.

Lack of access to health insurance, knowledge of insurance coverage, and/or high co-payments can prevent a person from receiving optimal asthma care. At this time, current statistical information about access to asthma care is not available.

34 Lozano P., Finkelstein JA., Carevy VJ., Wagner EH., et al. (2004) A Multisite Randomized Trial of the Effects of Physician Education and Organizational Change in ChronicAsthma Care: Health Outcomes of Pediatric Asthma Care Patient Outcome Research Team II Study. *Arch Pediatr Adolesc Med.* Sep;158(9): 875-83

35 George, M. (2005). *Complementary and Alternative Medicine* (CAM) and Folk Care in Asthma: *Assessment, Education and Integration.* CDC Teleconference.

36 Brutsche MH. (2002). Complementary and Alternative Medicine in Asthma – Safety, Effectiveness and Costs. *Swiss Med Wkly*.132:329–331.

37 National Institutes of Health, National Heart, Lung and Blood Institute. (2002). *Key Clinical Activities for Quality Asthma Care: Recommendations of the National Asthma Education and Prevention Program*. Prepared by: Williams, S.G., Schmidt, D.K., Redd SC., Storms. W.

Policy Issues

Strategies to address asthma must tackle an array of issues. Leadership is needed at the local, state and national levels. Several of the issues that are faced by persons with asthma are rooted in the health care system as a whole, such as access to medical care and insurance coverage for chronic disease education and management. Below are some health system policy issues that are critical to addressing asthma in Washington State.

- People with asthma should have access to care by health care practitioners and specialists with appropriate expertise in treating asthma throughout Washington State - rural and urban, regardless of insurance status, racial/ethnic background or place of residence.
- National and state evidence-based asthma management guidelines should be used throughout health care organizations and practices as the standard of care.
- Utilization of the Planned Care Model for systems change and promotion of integrated comprehensive electronic medical records and registries should be employed to track patient clinical status and outcomes.
- A system that rewards health care practitioners and health care delivery systems for providing high quality care that follows national and state guidelines needs to be established.

Current Activities

The Washington Asthma Initiative Practitioner's Support Committee, recognizing the need for specialized training in asthma care, developed the Asthma Educator Institute (AEI). The objective of WAI in developing this training was to raise statewide standards for asthma education. AEI is an advanced course for licensed health care providers and other health professionals engaged in asthma education.

In response to a 2001 legislative directive regarding disease management, the Medical Assistance Administration contracted with the McKesson Company to provide intensive case management and coordination of activities for the Department of Social and Health Services clients who have asthma. An evaluation study conducted by the University of Washington found that patients in a disease management program were twice as likely to have written care plans.[38]

In 2002, with funding from the Robert Wood Johnson Foundation, the King County Asthma Forum and Allies Against Asthma developed a clinical quality improvement (QI) intervention, using elements of the planned care and learning collaborative models. Four clinics are participating in the intervention. Each clinic has: a) established a quality improvement team; b) received asthma-specific training; and c) is utilizing an asthma database to track client data (registry). In 2004, approximately 1300 asthma patients have been entered into the registry. One clinic calculated a 42% reduction in hospitalizations, a 66% reduction in ED visits, and a 13% reduction in acute visits among its patients with asthma.[39]

In 2004, the WAI Practitioner's Support Committee Quality Improvement Workgroup developed and distributed an easy-to-use version of NAEPP clinical guidelines to 3,000 practitioners statewide.

38 Christakis D., Connell F., Richardson A., Maciejewski M,. (2004). *Report of Disease Management Evaluation*. University of Washington. http: //fortress.wa.gov/dshs/maa/newsdoc/DMEvalDocs.pdf

39 King County Asthma Forum, Public Health – Seattle and King County. *Learning Collaborative Intervention.* December 2004.

Health Care Goals

Goal 1: All persons with asthma will have access to quality asthma care in Washington State.

Objective HC1.1

By 2010, Washington State will utilize public health and medical care approaches to reducing the burden of asthma through increased access to health care service delivery statewide

Strategies

- Collaborate with specialty organizations to determine what data exists about availability of services and barriers to access (such as transportation) and then conduct surveys if necessary
- Establish a baseline assessment of primary and specialty care services available to individuals with asthma

Objective HC1.2

By 2010, assure that people with asthma in all areas of the state receive quality asthma care from health care practitioners with current expertise in managing asthma

Strategies

- Incorporate creative programs into community-level professional education opportunities such as distance learning
- Train additional specialists in asthma care (such as allergists, pulmonologists) if statewide assessment indicates this is a need
- Provide access to training on asthma management for health care professionals and relevant service providers in the long-term care system (e.g., nurses providing Nursing Services and Delegation, adult day services staff)
- Enhance the asthma management training component in the family practice residency and other health care professional training programs, particularly through the use of the Planned Care Model quality improvement collaborative methodology
- Maintain support of the Asthma Educator Institute and increase the number of people certified in Washington State
- Develop a proposed system for distance learning for health care professionals to develop and maintain current skills in asthma management and to share expertise with others

Goal 2: Promote optimal patient care of all persons with asthma through seamless and timely tracking asthma care service utilization statewide.

Objective HC2.1

By 2010, a comprehensive surveillance and monitoring system will be in place in order to assess asthma care in Washington State

Strategies

- Establish a baseline assessment of primary and specialty care services available to people with asthma in Washington State
- Develop a partnership with health plans and other data sources to monitor clinical asthma care statewide
- Complete a pilot project in at least one ED where primary care practitioners are notified promptly about patients that have been seen for an asthma attack

Goal 3: Health care practitioners and health care delivery systems will provide high quality care that follows national and state guidelines.

Objective HC3.1

By 2010, at least 80% of health care practitioners will deliver asthma care that follows national and state guidelines

Strategies

- Develop systems to ensure that all people with asthma have written self-management goals
- Monitor health plan and patient registry data system to ascertain that all asthma patients are receiving the recommended medications in accordance with national guidelines
- Support systems that enhance the planned care approach and other improvements in the clinical service delivery system
- Support policies/procedures that all persons with asthma have a written, dated asthma action plan
- Identify standardized resource tools that meet best practices criteria for patient education and counseling and make these available statewide
- Implement alternative approaches for implementing the Institute for Health Care Improvement collaborative model in Steps to a HealthierUS communities and others

Goal 4: Continuously monitor changes in the field of asthma care and incorporate as appropriate.

Objective HC4.1

By 2006, develop a statewide communication system for new information and research about asthma care

Strategies

- Form a work group to develop and implement a plan to keep health care stakeholders informed of professional education opportunities via the worldwide web
- Form a work group to develop a systematic method of disseminating information on new clinical research citations and abstracts on a regular basis

Objective HC4.2

By 2010, explore the role of complementary and alternative medicine (CAM) in asthma care on an ongoing basis

Strategies

- Promote collaborative workgroup meetings for people interested in asthma to build bridges between different groups, including CAM and Western medicine.

Health Care Work Group Members

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